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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,155	04/20/2005	Yves Vanderperren	S1022.81236US00	1521
46329 7590 03/20/2007 STMicroelectronics Inc. c/o WOLF, GREENFIELD & SACKS, PC Federal Reserve Plaza 600 Atlantic Avenue BOSTON, MA 02210-2206			EXAMINER EJAZ, NAHEED	
			ART UNIT	PAPER NUMBER
			2611	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/20/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/532,155

Applicant(s)

VANDERPERREN ET AL.

Examiner

Naheed Ejaz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 27-31, 36-41 & 44-49 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 & 13-16 of copending Application No. 10/364,294 (hereinafter, A1) filed on February 10, 2003 in view of Gilbert et al. (7,123,670). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following:

3. As per claim 27, A1 teaches, 'a frequency offset estimation unit for receiving unit for receiving the signal and obtaining initial information relating a carrier frequency offset from an autocorrelation of the first training sequence' (A1, claim 1, page # 4, lines 3-5) (it is noted that A1 claims 'obtaining an estimate of a carrier frequency offset' while

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claim 27 recites 'obtaining initial information relating to a carrier frequency offset' both are similar because both claims are obtaining carrier frequency offset and therefore are considered identical), 'a frequency offset compensation unit for compensating the received signal with the frequency offset obtained from the frequency offset estimation unit to form a compensated received signal' (A1, claim 1, page # 4, lines 6-8), 'a time reference determining unit for obtaining a timing reference for the received signal by cross-correlation of the compensated received signal with known training sequence'(A1, claim 1, page # 4, lines 9-11).

A1 does not teach, 'obtaining an estimate of a carrier frequency offset from an autocorrelation signal obtained by autocorrelation of the second training sequence of the received signal'.

Gilbert teaches a frequency offset control circuit that includes an autocorrelator that is to produce two vectors, first and second, based on short training symbols and long training symbols (col.21, lines 4-14) which reads on claim limitations of 'obtaining an estimate of a carrier frequency offset from an autocorrelation signal obtained by autocorrelation of the second training sequence of the received signal'.

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to implement the teachings of Gilbert into A1 in order to prevent the throughput of the communication system from degradation by correcting the residual frequency offset by generating two vectors based on autocorrelation of long and short training sequences as taught by Gilbert (col.2, lines 43-67, col.3, lines 1-4, col.21, lines 4-14).

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4. As per claim 28 recites (Office assumes it depends on claim 27), A1 teaches, 'the time reference determining unit' (A1, claim 1, page # 4, line 9), 'adapted to obtain a first timing reference for the received signal by autocorrelation of the received signal' (A1, claim 1, page # 4, lines 13-14), 'a second timing reference for the received signal by the cross-correlation of the compensated received signal with the known training sequence' (A1, claim 1, page # 4, lines 15-16)

5. As per claim 29 (Office assumes it depends on claim 27), A1 teaches, 'the frequency offset estimation unit comprises means for determining a phase shift in the autocorrelation signal of the received signal' (A1, claim 2, page # 4, lines 1-3).

6. As per claim 30 (Office assumes it depends on claim 27), A1 teaches, 'receiver comprises means to detect a characteristic curve indicative of a known training sequence in the phase of the autocorrelation signal' (A1, claim 3, page # 4, lines 1-3).

7. As per claim 31 (Office assumes it depends on claim 27), A1 teaches, 'receiver comprises means to detect a characteristic curve indicative of a known training sequence in the amplitude of the autocorrelation signal' (A1, claim 4, page # 5, lines 1-3).

8. As per claim 36 (Office assumes it depends on claim 29), A1 teaches, 'the frequency offset estimation unit comprises means for determining the carrier frequency offset from the phase shift' (A1, claim 5, page # 5, lines 1-3).

9. As per claim 37 (Office assumes it depends on claim 27), A1 teaches, 'the receiver comprises means to determine a sign of the CFO from the phase of the autocorrelation signal from a known sequence' (A1, claim 6, page # 5, lines 1-3).

10. As per claim 38 (Office assumes it depends on claim 37), A1 teaches, 'the receiver has means for determining a phase shift in the autocorrelation signal from a further known sequence of the received signal' (A1, claim 7, page # 5, lines 1-3)

11. As per claim 39 (Office assumes it depends on claim 27), A1 teaches, 'the time reference determining unit comprises means to determine a characteristic curve indicative of a known training sequence in the amplitude of the autocorrelation signal' (A1, claim 8, page # 5, lines 1-3).

12. As per claim 40 (Office assumes it depends on claim 27), A1 teaches, 'the time reference determining unit comprises means to determine a characteristic curve indicative of a known training sequence in the phase of the autocorrelation signal' (A1, claim 9, page # 5, lines 1-3).

13. As per claim 41 (Office assumes it depends on claim 27), A1 teaches, 'the time reference determining unit comprises means to determine a characteristic curve indicative of a known training sequence in the amplitude of the cross-correlation of the compensated received sequence with the known training sequence' (A1, claim 10, page # 5, lines 1-4).

14. As per claim 44 (Office assumes it depends on claim 27), A1 discloses, 'the receiver is adapted to output the timing reference obtained from the received signal by autocorrelation of the received signal if the timing reference obtained by cross correlation of the compensated received signal with the known training sequence is not present' (A1, claim 13, page # 6, lines 12-16).

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15. As per claim 45 (Office assumes it depends on claim 44), A1 teaches, 'the receiver is adapted to otherwise output the timing reference determined by cross-correlation of the received signal' (A1, claim 13, page # 6, lines 24-26).

16. As per claim 46 (Office assumes it depends on claim 44), A1 discloses, 'the receiver is adapted to compare the timing reference for the received signal obtained by cross-correlation of the compensated received signal with the known training sequence when present and the timing reference determined by autocorrelation of the received signal, and to output a reset signal if the two timing references differ by more than a threshold value and otherwise to output the timing reference for the received signal obtained by cross-correlation of the compensated received signal with the known training sequence' (A1, claim 13, page # 6, lines 18-26).

17. As per claim 47 (Office assumes it depends on claim 27), A1 discloses, 'the timing reference determining unit is adapted to determine a symbol timing from a correlation peak in the cross-correlation of the received signal with the training sequence' (A1, claim 14, page # 6, lines 1-3).

18. As per claim 48 (Office assumes it depends on claim 27), A1 discloses, 'the received signals also contain a cyclic prefix, further comprising: means for obtaining an accurate value for the carrier frequency offset by autocorrelation of the cyclic prefix with the received signal' (A1, claim 15, page # 7, lines 1-3).

19. As per claim 49 (Office assumes it depends on claim 27), A1 discloses, 'An OFDM telecommunications system including a receiver according to claim 1' (A1, claim 16, page # 7, lines 1-2).

Information Disclosure Statement

20. The information disclosure statement filed on 08/11/2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Abstract

21. The abstract of the disclosure is objected to because of the following:
delete the title of the invention from the Abstract. Correction is required. See MPEP § 608.01(b).

22. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

23. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Abstract uses the word 'comprising' (see Abstract, line 1), one suggestion is to replace the word 'comprising' by ---including---. Correction is required.

Claim Objections

24. Claims 28-49 are objected to because of the following informalities: the dependency of the dependent claims 28-49 are not correct such as claim 28 recites that it depends on claim 1 while claim 1 has been canceled & claim 45 recites that it depends on claim 18 while claim 18 has been canceled and so forth. Appropriate correction is required.

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. Claims 27, 40, 47, 49, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (WO 00/77961) in view of Dölle et al. (6,674,817) (hereinafter, Dolle).

27. As per claim 27, Kim discloses, 'a frequency offset estimation unit for receiving the signal and obtaining initial information relating a carrier frequency offset' (figure 2, element 22, page # 7, lines 10-27), 'a frequency offset compensation unit for compensating the received signal with the frequency offset obtained from the frequency offset estimation unit to form a compensated received signal (figure 2, element 23, page # 7, lines 28-30), and a time reference determining unit for obtaining a timing reference

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for the received signal by cross-correlation of the compensated received signal with a known training sequence' (figures 1B & 2, elements 24 & 25, page # 8, lines 5-17).

Although, Kim performs autocorrelation on received data before estimating the frequency offset signal (figures 2, element 21, page # 5, lines 21-24, page # 10, lines 6-19) (figure 3) but he does not disclose autocorrelation signal obtained by the first and second training sequences explicitly.

Dolle discloses, 'an autocorrelation signal obtained by autocorrelation of the first training sequence (figure 3, col.6, lines 36-60) and for obtaining an estimate of a carrier frequency offset from an autocorrelation signal obtained by autocorrelation of the second training sequence of the received signal' (figure 8, element 19, col.7, lines 13-17, col.9, lines 48-54).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to implement the teachings of Dolle into Kim in order to clearly distinguish between the different type of data burst types by giving different phase values for the first and second training sequences by performing auto-correlation (col.7, lines 12-17) as taught by Dolle thus enable a communication device to distinguish if a received data burst is of interest or not (col.3, lines 33-37).

28. As per claims 30 & 31 (Office assumes they depend on claim 27), Kim discloses, 'detect a characteristic curve indicative of a known training sequence in the phase of the autocorrelation signal' & 'detect a characteristic curve indicative of a known training sequence in the amplitude of the autocorrelation signal' (see figures 1B & 4A-4C, paragraph 'Background Art') (it is noted that in figure 1B, Kim shows a curve of

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autocorrelation values which has synchronization symbols included (claimed 'training sequence'). Furthermore, autocorrelation value has some phase and amplitude values associated with, which would be indicated with the autocorrelation values on the curve and therefore would be equivalent to the claim limitations of having a curve which indicates a known training sequence in the phase and amplitude of the autocorrelation values).

29. As per claims 32 & 34 (Office assumes they depend on claims 30 & 31 respectively), Kim discloses, 'the characteristic curve includes peaks and/or troughs and threshold values are used to detect peaks and troughs' (see figures 3 & 4A-4C, page # 6, lines 26-31, page # 7, lines 1-9).

30. Claim 39 (Office assumes it depends on claim 27) is rejected under the same rationale as mentioned in the rejection of claim 31 above.

31. Claim 40 (Office assumes it depends on claim 27) is rejected under the same rationale as mentioned in the rejection of claim 30 above.

32. Claim 42 (Office assumes it depends on claim 41) is rejected under the same rationale as mentioned in the rejection of claim 32 above.

33. As per claim 47 (Office assumes it depends on claim 27), Kim discloses, 'the timing reference determining unit is adapted to determine a symbol timing from a correlation peak in the cross-correlation of the received signal with the training sequence' (figure 2, elements 24 & 25, page # 3, lines 17-22).

34. As per claim 49 (Office assumes it depends on claim 27), Kim teaches an apparatus and method for synchronizing symbol timing and frequency in an OFDM

system (claimed 'OFDM telecommunications system') (page # 1, 'Technical Field', lines 1-4) for the receiving side as well since Kim is teaching that the synchronization apparatus and method is suitable for the broad-band wireless LAN (page # 1, 'Technical Field', lines 4-9) which includes receiver as well.

35. Claim 50 is rejected under the same rationale as mentioned in the rejection of claim 27 above.

36. Claims 29, 33, 35-37, 38, 43, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (WO 00/77961) in view of Dölle et al. (6,674,817) (hereinafter, Dolle), as applied to claims 27, 29, 40, 47, 49, 50 above, and further in view of Almenar et al. (hereinafter, Almenar) (IEEE, "Synchronization techniques for HIPERLAN/2", Volume 2, pg # 762-766).

37. As per claim 29 (Office assumes it depends on claim 27), Kim and Dolle teach all the limitations in the previous claims on which claim 29 depends but they fail to disclose detection of phase shift.

Almenar discloses, 'determining a phase shift in the autocorrelation signal of the received signal' (page # 763, col.1, paragraph # 5, page # 764, col.1).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to implement the teachings of Almenar into Kim and Dolle in order to achieve synchronization by adding cyclic prefix to the modulation scheme (OFDM) to make the system robust to multipath as taught by Almenar (see page # 762, col.2, paragraph # 2) thus enhance system performance.

38. As per claims 33 & 35 (Office assumes they depend on claims 32 & 34 respectively), Kim and Dolle teach all the limitations in the previous claims on which claim 48 depends but they fail to disclose setting of threshold values dynamically.

Almenar teaches, 'the threshold values are set dynamically' (see page # 764, col.1) (it is noted in the mentioned column that Almenar is setting threshold values at the same he is performing the detection algorithms which reads on claim limitations of setting the threshold values dynamically).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to implement the teachings of Almenar into Kim and Dolle in order to compensate for carrier frequency offset by achieving the phase synchronization in order to avoid loss of orthogonality between the subsymbols as taught by Almenar (see page # 762, col.1, paragraph # 3) thus enhance system performance.

39. As per claim 36 (Office assumes it depends on claim 29), Kim and Dolle teach all the limitations in the previous claims on which claim 48 depends but they fail to disclose carrier frequency offset from the phase shift.

Almenar teaches, 'determining the carrier frequency offset from the phase shift' (page # 762, col.2, paragraph # A, lines 13-16, page # 763, col.1, paragraphs # 1 & 2).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to implement the teachings of Almenar into Kim and Dolle in order to compensate for carrier frequency offset by achieving the phase synchronization in order to avoid loss of orthogonality between the subsymbols as taught by Almenar (see page # 762, col.1, paragraph # 3) thus enhance system performance.

40. As per claim 37 (Office assumes it depends on claim 27), Kim and Dolle teach all the limitations in the previous claims on which claim 48 depends but they fail to disclose determining of a sign of the CFO from the phase of the autocorrelation signal.

Almenar teaches, 'determine a sign of the CFO from the phase of the autocorrelation signal from a known sequence' (page # 764, col.1, paragraph # 4).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to implement the teachings of Almenar into Kim and Dolle in order to compensate for carrier frequency offset by achieving the phase synchronization in order to avoid loss of orthogonality between the subsymbols as taught by Almenar (see page # 762, col.1, paragraph # 3) thus enhance system performance.

41. Claim 38 (Office assumes it depends on claim 37) is rejected under the same rationale as mentioned in the rejection of claim 29 above because Almenar is determining a phase shift in the auto correlation signal which has training sequence included (page # 763, col.1, paragraph # 1, lines 10-14 & paragraph # 5).

42. As per claim 48 (Office assumes it depends on claim 27), Kim and Dolle teach all the limitations in the previous claims on which claim 48 depends but they fail to disclose autocorrelation of cyclic prefix with received signal explicitly.

Almenar discloses synchronization of OFDM signal by teaching autocorrelation of the received signal which also includes parameters based on cyclic prefix (page # 763, col.1, paragraph # 1, lines 10-14 & col.1, paragraph # 5).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to implement the teachings of Almenar into Kim and Dolle in order to

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compensate for carrier frequency offset by achieving the phase synchronization in order to avoid loss of orthogonality between the subsymbols as taught by Almenar (see page # 762, col.1, paragraph # 3) thus enhance system performance.

43. Claim 43 (Office assumes it depends on claim 42) is rejected under the same rationale as mentioned in the rejection of claim 33 above.

44. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (WO 00/77961) in view of Dölle et al. (6,674,817) (hereinafter, Dolle), as applied to claim 27 above, and further in view of Mizoguchi et al. (6,658,063) (hereinafter, Mizoguchi).

45. As per claim 41 (Office assumes it depends on claim 27), Kim and Dolle teach all the limitations in the previous claims on which claim 28 depends but they fail to disclose curve indicative of a known training sequence in the amplitude of the cross-correlation of the compensated received sequence.

Mizoguchi teaches, 'determine a characteristic curve indicative of a known training sequence in the amplitude of the cross-correlation of the compensated received sequence with the known training sequence' (see figure 4, col.1, lines 39-46, col.6, lines 25-34, col.8, lines 12-40).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to implement the teachings of Mizoguchi into Kim and Dolle in order to detect reference received timing accurately as taught by Mizoguchi (col.1, lines 6-12, col.5, lines 18-34) by generating compensation value of phase and amplitude caused by frequency offset.

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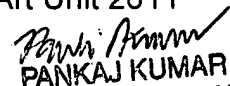
Contact Information

46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naheed Ejaz whose telephone number is 571-272-5947. The examiner can normally be reached on Monday - Friday 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

N.E.
3/13/2007

Naheed Ejaz
Examiner
Art Unit 2611

PANKAJ KUMAR
PRIMARY PATENT EXAMINER